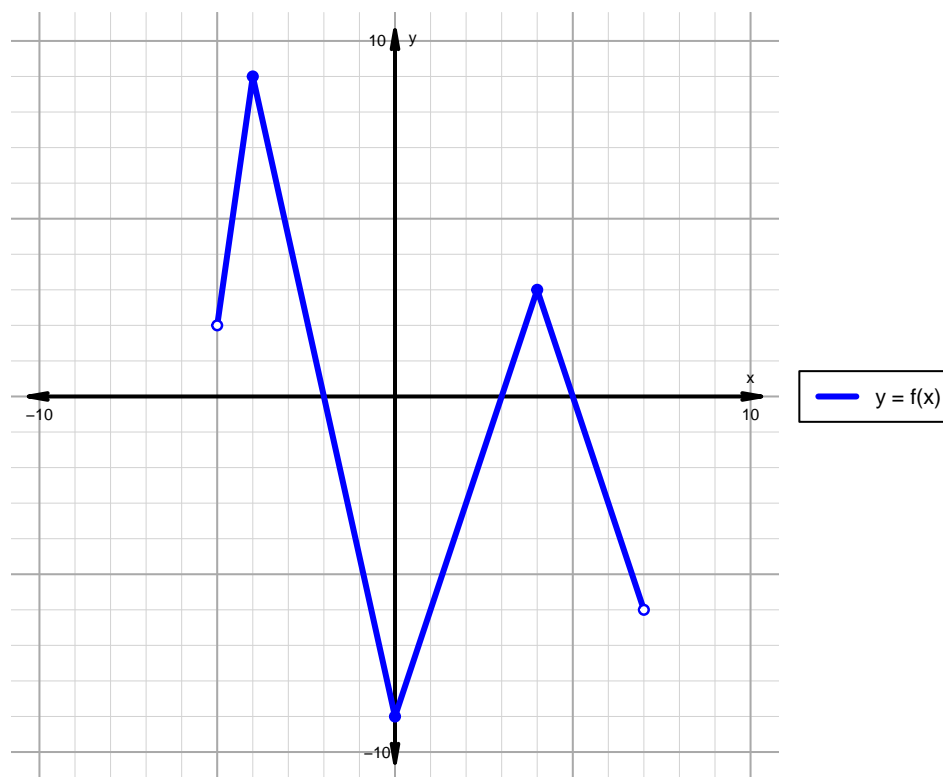


Name: \_\_\_\_\_

Date: \_\_\_\_\_

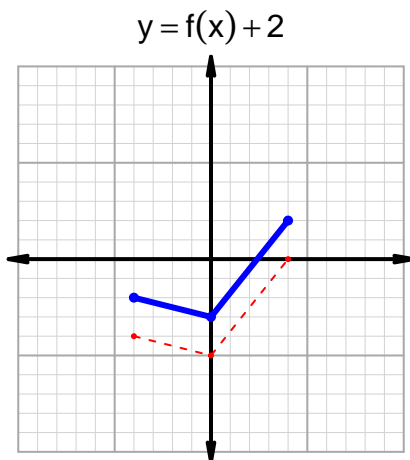
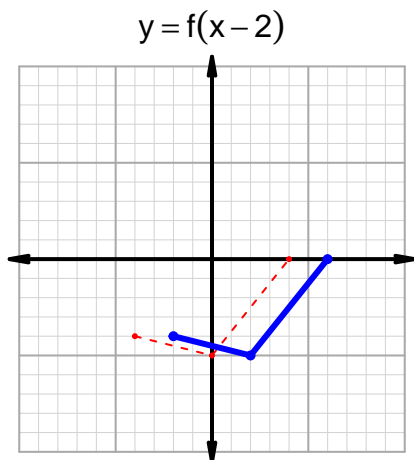
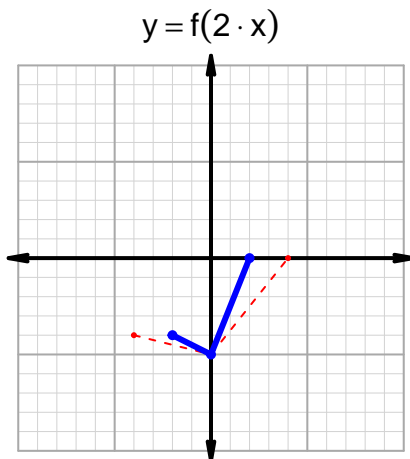
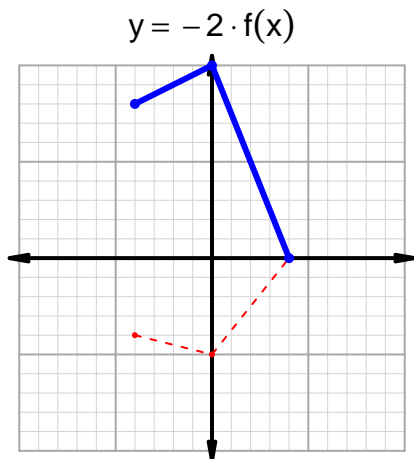
**Intervals, Transformations, and Slope Solution (version 76)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-5, -2) \cup (3, 5)$
Negative	$(-2, 3) \cup (5, 7)$
Increasing	$(-5, -4) \cup (0, 4)$
Decreasing	$(-4, 0) \cup (4, 7)$
Domain	$(-5, 7)$
Range	$(-9, 9)$

## Intervals, Transformations, and Slope Solution (version 76)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 35$  and  $x_2 = 75$ . Express your answer as a reduced fraction.

$x$	$g(x)$
35	55
55	75
75	80
80	35

$$\frac{g(75) - g(35)}{75 - 35} = \frac{80 - 55}{75 - 35} = \frac{25}{40}$$

The greatest common factor of 25 and 40 is 5. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{5}{8}$$